

# EUROPEAN PATENT OFFICE

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TITLE : METHOD FOR CONTROLLING ARC LENGTH FOR GMA WELDING

ABSTRACT : PURPOSE: To obtain satisfactory welding quality by controlling arc length in accordance with the number of times for short-circuiting and providing the stability of arc.

CONSTITUTION: In the method of controlling the arc length of GMA welding in which arc welding is performed by using a sealed gas and supplying a consumable electrode, an average number of times for short-circuiting per unit time during an n-th controlling period is calculated for each elapse of the extracted unit time for short-circuiting, the optimum length of the controlling period is calculated from a function of the difference between this average number of times for short-circuiting and a target average number of times for short-circuiting as  $f(Q_{tu}-Q_{ru})$ , the n-th time is completed either by the timing when the calculated value is shorter than a specific value or by the elapse of the n-th period, a modified quantity for welding output  $\Delta P_{n+1}$  is calculated in accordance with the difference  $(Q_{tu}-Q_{ru})$ , and by  $P_{n+1}=P_n+\Delta P_{n+1}$ , the output value in the (n+1)th control period is controlled.

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